



Organic Chemistry II - CHMB42 Summer 2016



Welcome to Organic Chemistry part II. CHMB42 provides an introduction to compound determination using various and EV 127, 416-287-7222

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Office hours Thursday 2-4 in EV560, anytime Wed in EV 127 while the labs are running (or find me in the labs)
Tuesday TBD

Dr. N. Thavarajah

Lecturing from June 22th until the end of the term

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Office Hours: Mondays 12:30- 1:30 and Thursdays 12-2 in EV402 and by appointments.

Email Policy:

Please use a valid "utoronto.ca" account for all CHMB42 correspondence. Emails received from other accounts are frequently filtered out as spam and may not be received. When composing your email, please use professional language. Be sure to include the course code as part of the subject line and sign the email with your first and last name, as well as your student ID. If it is in regards to your lab please include your practical number and the name of your TA. Your email will be answered as soon as possible (likely within 36 hours, unless it is a weekend or holiday).

A note on email content: Please double check the syllabus and course Blackboard page before emailing me with a question. The answers to most student questions can be found there! Questions regarding the lecture material/assigned readings/suggested problems should be posted on the discussion board (see below) rather than by Paula Yurkanis Bruice, Prentice Hall publishing.

This is the same text you would have used in CHMB41.

numbers may be different. It will be your responsibility to follow along. There will be 7th edition texts and solution manuals available in the library on short term loan.

Online Homework:

There will be weekly homework assignments to be completed using the online homework Sapling Learning. This will be available to you for \$40. Please see the pdf in Blackboard with instructions on how to sign up.

<http://saplinglearning.ca> and course is:

University of Toronto Scarborough CHMB42H3- Summer 16 - RESTIVO AND THAVARAJAH

Please remember to use your 10 digit student number as your ID for the online homework.

The problem sets will be released every Friday morning and they are due a week and a half later on Tuesdays at 11 pm. First one will be due May 17th. The assignments will be equally weighted and recorded as a percentage. They will cover the material discussed in class. Late assignments will not be graded. The online homework counts for 3% of your final grade and can make a huge difference in helping you understand the course material and ultimately improving your grade.

If you choose to not purchase the online homework system then your grade will be switched to the tutorial quizzes which will be worth 5% (but lowest quiz will not be dropped)

Discussion Board:

An online discussion board will be maintained through Blackboard. This online space will provide you with a place to post questions related to the course material. You must post as yourself. Feel free to answer each others' questions as well. The forums will be monitored by the instructor and/or a science engagement student to ensure that all questions are answered accurately. In addition, frequently asked questions (with their answers) may be posted here so be sure to check in periodically. Please note: Posts which contain answers/solutions to weekly homework assignments are not permitted and will be promptly removed.

Clickers:

You should have one from last term or from first year. They will be used in class so that you may participate in the questions that will be presented periodically throughout the lectures. They will not be used for credit.

Course Organization:

Lectures- Total of 3-4 hours per week. The lecture schedule is a rough guide. Incomplete notes will be provided for you on Blackboard. You should print them off and bring them with you to class. You should also bring some blank paper. You will be responsible for all material covered in lecture, even if it is not included in the online notes. Assigned problems will be posted with the lecture material. It may seem like there are so many questions but many of them are quickly answered when going through the reading of the chapter. You will be successful in this course by doing the problems and coming

They will not be available for exam review so make sure you keep up during the term. Forward queries to webopt@utsc.utoronto.ca.

CHMB42H3 Lecture Schedule (*Tentative)

Week	Topic	Suggested Reading (Bruice 7 th ed.)	Suggested Readings (Bruice 6 th ed.)	Suggested Readings (Bruice 5 th ed.)
May 4-6	Infrared/ Mass Spec	14.10-14.17 14.1-14.6,	13	12
May 11-13	Mass Spec/NMR	15.1-15.14,	13 & 14	12 & 13
May 18-20	NMR	15.17-15.20	14	13
May 25-27	Benzene and Aromaticity/ Reactions of substituted Benzenes	8.7 -8.12, 19.1-19.14	15	14
June 1-3	Reactions of substituted Benzenes cont'd/ Carboxylic Acid Derivatives	19.15-19.25, 16.1-16.9- 16.22	16 & 17	15 & 16
June 8	Carboxylic Acid Derivatives-			
June 10 th	In class midterm exam			
June 13- 17	READING WEEK			
June 22-24	Reactions of Aldehydes and Ketones, More Reactions of Carbonyl Compounds	17.1-17.6, 17.7-17.12	18	17

June 29 Reactions of Aldehydes and Ketones cont'd/

This is a tentative schedule. Some parts of the lecture, like naming for example, we will leave for you to go over on your own time. We hope to be doing more problems in class. Some of these will be from your text but most will be from other sources.

Tutorials:

The tutorials are scheduled in the same time slot as your laboratory but in alternating weeks. You have been assigned to the tutorials based on our practical number and the room and time schedule is shown below. If you have an even numbered practical you will have your tutorial first.

Evennumbered practicals will have their tutorials beginning May 11, odd begin

Method of evaluation:

<u>1 Midterm test</u> - (~2 hours) All chapters taught up to and including June 3 rd material	25%
<u>Tutorials and online homework</u>	2 + 3%
<u>Lab</u> 5 experiments and final lab test- see manual *There will be no makeup for the lab test.	25% must pass to pass course
<u>Final exam</u> during final exam schedule (cumulative)	45% (must either midterm or final to pass course)
Extra credit- more on this later	Up to 2%- must have passing mark first

Note that you must pass the

5- *Extra problems sessions (called Discussion Sessions) are scheduled for a 2 hour session each week and your attendance is voluntary. We will be going through extra problems either assigned or not from the text and other sources. Due to scheduling problems it may not be a time that everyone can come, therefore find a friend who can and get their notes and ask them to go over the material. These sessions will not be videotaped. They will be on Fridays from 11-1 in IC 130. Tania Mahendiran and Bryant Lim will be running them.

This course has a reputation for being tough which is unfounded. It **IS** a course that requires a lot of **TIME and PRACTICE**. You will be unsuccessful if you do not keep up on the material every day. This course is like building a house. If the foundation is not well built the rest will crumble. You may have to go over your material from CHMB41 over and over. Use your text book to its fullest potential.

As soon as you are having difficulty with a problem, ask for help. We are here to help you understand organic chemistry so don't feel shy. We want you to be successful but it all starts with YOU.

4. Muscone (natural sources, synthesis, practical application)
5. Carvone (natural sources, synthesis, practical application)
6. Strawberry or raspberry ketones (natural sources, synthesis, practical application)
7. -Damescone (natural sources, synthesis, practical application)
8. Z-Jasmone (natural sources, synthesis, practical application)
9. DIBAL-H (structure, importance in synthesis, usage in synthesis of natural compounds such as ciguatoxin, etc.)
10. NADH – natural reducing agent
11. -Sinesal – structure, simple chemistry, appearance in nature.
12. Chloral hydrate (natural sources, synthesis, practical application)
13. Ninhydrin (natural sources, synthesis, practical application)
14. 2,4-Dinitrophenylhydrazine and its application in carbonyl compounds (synthesis, chemical reactions)
15. Grignard reagents (discovery, chemical properties, practical application)
16. Nicotine (natural sources, synthesis, practical application)
17. Coumarin (natural sources, synthesis, practical application)
18. D-Ribose (natural sources, synthesis, practical application)
19. Estradiol (natural sources, synthesis, practical application)
20. Anabolic Steroids (classification, synthesis, practical applications)
21. D-Glucose (natural sources, synthesis, practical application)
22. Caffeine (natural sources, synthesis, practical application)
23. Acetaminophen (synthesis, chemical properties, practical application)
24. Procaine (synthesis, chemical properties, practical application)

These are just a few ideas and we will be very happy if you will come out with your own topic.

Please use this opportunity to improve your mark in the course!